

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An inkjet printing apparatus comprising:
a plurality of pressure chambers each having one end connected to a nozzle;
an actuator that can take two states of a first state wherein the volume of a pressure chamber is V_1 , and a second state wherein the volume of the pressure chamber is V_2 larger than V_1 ; and

an actuator controller for supplying a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ~~ink is~~ two separate ink droplets consisting of a main droplet and a satellite droplet smaller than the main droplet are successively ejected through the nozzle,

a pulse width T_w of the voltage pulse during the second state being shorter than a pulse width T_{max} at which a maximum ejection speed of ink ejected from the nozzle is ~~obtained~~ obtained, wherein the two separate ink droplets are ejected whenever the state of the actuator is changed from the second state to the first state.

2. (Original) The inkjet printing apparatus according to claim 1, wherein the pulse width T_w of the voltage pulse is not less than $0.7 T_{max}$ and not more than $0.8 T_{max}$.

3. (Currently Amended) An inkjet printing apparatus comprising:
a plurality of pressure chambers each having one end connected to a nozzle;
an actuator that can take two states of a first state wherein the volume of a pressure chamber is V_1 , and a second state wherein the volume of the pressure chamber is V_2 larger than V_1 ; and

an actuator controller for changing a state of the actuator from the first state to the second state and then to the first state again so that ~~ink is~~ two separate ink droplets

consisting of a main droplet and a satellite droplet smaller than the main droplet are successively ejected through the nozzle,

the actuator controller controlling a time period T_w during the second state from a timing T_1 when the actuator starts to change from the first state to the second state, until a timing T_2 when the actuator starts to change from the second state to the first state, to be shorter than a pulse width T_{max} at which a maximum ejection speed of ink ejected from the nozzle is ~~obtained~~obtained, wherein the two separate ink droplets are ejected whenever the state of the actuator is changed from the second state to the first state.

4. (Original) The inkjet printing apparatus according to claim 3, wherein the time period T_w from the timing T_1 when the actuator starts to change from the first state to the second state until the timing T_2 when the actuator starts to change from the second state to the first state is not less than $0.7 T_{max}$ and not more than $0.8 T_{max}$.

5. (Original) The inkjet printing apparatus according to claim 3, wherein the actuator controller supplies a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle.

6. (Currently Amended) An actuator controller for controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state wherein the volume of a pressure chamber is V_1 , and a second state wherein the volume of the pressure chamber is V_2 larger than V_1 ,

the actuator controller supplying a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ~~ink is~~ two separate ink droplets consisting of a main droplet and a satellite droplet smaller than the man droplet are successively ejected through the nozzle,

a pulse width T_w of the voltage pulse during the second state being shorter than a pulse width T_{max} at which a maximum ejection speed of ink ejected from the nozzle is ~~obtained~~obtained, wherein the two separate ink droplets are ejected whenever the state of the actuator is changed from the second state to the first state.

7. (Original) The actuator controller according to claim 6, wherein the pulse width T_w of the voltage pulse is not less than $0.7 T_{max}$ and not more than $0.8 T_{max}$.

8. (Currently Amended) An actuator controller for controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state wherein the volume of a pressure chamber is V_1 , and a second state wherein the volume of the pressure chamber is V_2 larger than V_1 ,

the actuator controller changing a state of the actuator from the first state to the second state and then to the first state again so that ~~ink is~~two separate ink droplets consisting of a main droplet and a satellite droplet smaller than the main droplet are successively ejected through the nozzle,

the actuator controller controlling a time period T_w during the second state from a timing T_1 when the actuator starts to change from the first state to the second state, until a timing T_2 when the actuator starts to change from the second state to the first state, to be shorter than a pulse width T_{max} at which a maximum ejection speed of ink ejected from the nozzle is ~~obtained~~obtained, wherein the two separate ink droplets are ejected whenever the state of the actuator is changed from the second state to the first state.

9. (Original) The actuator controller according to claim 8, wherein the time period T_w from the timing T_1 when the actuator starts to change from the first state to the second state until the timing T_2 when the actuator starts to change from the second state to the first state is not less than $0.7 T_{max}$ and not more than $0.8 T_{max}$.

10. (Original) The actuator controller according to claim 8, the actuator controller supplies a voltage pulse to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle.

11. (Currently Amended) A method of controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state wherein the volume of a pressure chamber is V_1 , and a second state wherein the volume of the pressure chamber is V_2 larger than V_1 , a state of the actuator changing from the first state to the second state and then to the first state again so that ~~ink is~~ two separate ink droplets consisting of a main droplet and a satellite droplet smaller than the main droplet are successively ejected through the nozzle,

the method comprising a step of supplying a voltage pulse to the actuator, the voltage pulse having a pulse width T_w during the second state shorter than a pulse width T_{max} at which a maximum ejection speed of ink ejected from the nozzle is ~~obtained.~~ obtained, wherein the two separate ink droplets are ejected whenever the state of the actuator is changed from the second state to the first state.

12. (Original) The method according to claim 11, wherein the pulse width T_w of the voltage pulse is not less than $0.7 T_{max}$ and not more than $0.8 T_{max}$.

13. (Currently Amended) A method of controlling the drive of an actuator included in an inkjet printing apparatus, the inkjet printing apparatus comprising a plurality of pressure chambers each having one end connected to a nozzle, the actuator being able to take two states of a first state wherein the volume of a pressure chamber is V_1 , and a second state wherein the volume of the pressure chamber is V_2 larger than V_1 , a state of the actuator changing from the first state to the second state and then to the first state again so that ~~ink is~~

two separate ink droplets consisting of a main droplet and a satellite droplet smaller than the main droplet are successively ejected through the nozzle,

the method comprising a step of controlling a time period T_w during the second state from a timing T_1 when the actuator starts to change from the first state to the second state, until a timing T_2 when the actuator starts to change from the second state to the first state, to be shorter than a pulse width T_{max} at which a maximum ejection speed of ink ejected from the nozzle is ~~obtained~~obtained, wherein the two separate ink droplets are ejected whenever the state of the actuator is changed from the second state to the first state.

14. (Original) The method according to claim 13, wherein the time period T_w from the timing T_1 when the actuator starts to change from the first state to the second state until the timing T_2 when the actuator starts to change from the second state to the first state is not less than $0.7 T_{max}$ and not more than $0.8 T_{max}$.

15. (Original) The method according to claim 13, wherein a voltage pulse is supplied to the actuator to change a state of the actuator from the first state to the second state and then to the first state again so that ink is ejected through the nozzle.